

CLAIMS

1. An image processing apparatus comprising

face area extraction means for extracting a face area from an image of a person;

detection means for detecting the contour of the face of said person from the face area extracted by said face area extraction means;

face classification means for classifying the shape of the face of said person, based on the contour of the face of said person as detected by said detection means; and

image correcting means for correcting the contour of said face of said person based on the type of the face shape of said person classified by said face classification means.

2. The image processing apparatus wherein said detection means detects the positions of the head top, eyes, mouth and the jaw, and the cheek; and wherein

said face classification means classifies the shape of the face of said person into at least three types of $L2 = L3$, $L2 < L3$ and $L2 > L3$, wherein $L1$ is the length from the head top to the jaw of said person as detected by said detection means, $L2$ is the width of the cheek of said person at the position of his/her mouth as detected by said detection means, and $L3$ is said length $L1$ multiplied by a preset coefficient α .

3. The image processing apparatus according to claim 2 wherein said image

correcting means effects image correction for reducing the width-wise direction of said face area when the face shape of the person as classified by said face classification means is $L2 = L3$.

4. The image processing apparatus according to claim 2 wherein said image correcting means effects image correction for shading the contour portion of the face of said person in a range of said face area from a preset location between the eyes and the mouth up to the jaw of said person when the face shape of the person as classified by said face classification means is $L2 = L3$.

5. The image processing apparatus according to claim 2 wherein said image correcting means effects image correction for reducing the width-wise direction of said face area in a range of said face area from a preset location between the eyes and the mouth up to the jaw of said person when the face shape of the person as classified by said face classification means is $L2 < L3$.

6. The image processing apparatus according to claim 2 wherein said image correcting means effects image correction for shading the contour portion of the face of said person in a range of said face area from a preset location between the eyes and the mouth up to the jaw of said person when the face shape of the person as classified by said face classification means is $L2 < L3$.

7. The image processing apparatus according to claim 2 wherein said image correcting means effects image correction for reducing the width-wise direction of said face area and image correction for reducing the width-wise direction of said

face area in a range of said face area from a preset location between the eyes and the mouth up to the jaw of said person when the face shape of the person as classified by said face classification means is $L2 > L3$.

8. The image processing apparatus according to claim 2 wherein said image correcting means effects image correction for reducing the width-wise direction of said face area and image correction for shading the contour portion of the face of said person in a range of said face area from a preset location between the eyes and the mouth up to the jaw of said person when the face shape of the person as classified by said face classification means is $L2 > L3$.

9. An image processing method comprising

a face area extraction step for extracting a face area from an image of a person;

a detection step for detecting the contour of the face of said person from the face area extracted by said face area extraction step;

a face classification step for classifying the shape of the face of said person, based on the contour of the face of said person as detected by said detection step; and

an image correcting step for correcting the contour of said face of said person based on the type of the face shape of said person.

10. The image processing method according to claim 9 wherein said detection step detects the positions of the head top, eyes, mouth and the jaw, and the cheek; and

wherein

said face classification step classifies the shape of the face of said person into at least three types of $L2 = L3$, $L2 < L3$ and $L2 > L3$, wherein $L1$ is the length from the head top to the jaw of said person, $L2$ is the width of the cheek of said person at the position of his/her mouth, and $L3$ is said length $L1$ multiplied by a preset coefficient α .

11. The image processing method according to claim 10 wherein said image correcting step effects image correction for reducing the width-wise direction of said face area when the face shape of the person is $L2 = L3$.

12. The image processing method according to claim 10 wherein said image correcting step effects image correction for shading the contour portion of the face of said person in a range of said face area from a preset location between the eyes and the mouth up to the jaw of said person when the face shape of the person as classified by said face classification step is $L2 = L3$.

13. The image processing method according to claim 10 wherein said image correcting step effects image correction for reducing the width-wise direction of said face area in a range of said face area from a preset location between the eyes and the mouth up to the jaw of said person when the face shape of the person as classified by said face classification step is $L2 < L3$.

14. The image processing method according to claim 10 wherein said image correcting step effects image correction for shading the contour portion of the face

of said person in a range of said face area from a preset location between the eyes and the mouth up to the jaw of said person when the face shape of the person as classified by said face classification step is $L2 < L3$.

15. The image processing method according to claim 10 wherein said image correcting step effects image correction for reducing the width-wise direction of said face area and image correction for reducing the width-wise direction of said face area in a range of said face area from a preset location between the eyes and the mouth up to the jaw of said person when the face shape of the person as classified by said face classification step is $L2 > L3$.

16. The image processing method according to claim 10 wherein said image correcting step effects image correction for reducing the width-wise direction of said face area and image correction for shading the contour portion of the face of said person in a range of said face area from a preset location between the eyes and the mouth up to the jaw of said person when the face shape of the person as classified by said face classification step is $L2 > L3$.

17. An imaging apparatus comprising

imaging means for imaging a person;

face area extraction means for extracting a face area from an image of a person imaged by said imaging means;

detection means for detecting the contour of the face of said person from the face area extracted by said face area extraction means;

face classification means for classifying the shape of the face of said person based on the contour of the face of said person detected by said detection means; and

image correction means for correcting the contour of said face of said person based on the type of the face of said face classified by said face classification means.

18. The imaging apparatus according to claim 17 wherein said detection means detects the positions of the head top, eyes, mouth and the jaw, and the cheek; and wherein

said face classification means classifies the shape of the face of said person into at least three types of $L2 = L3$, $L2 < L3$ and $L2 > L3$, wherein $L1$ is the length from the head top to the jaw of said person as detected by said detection means, $L2$ is the width of the cheek of said person at the position of his/her mouth as detected by said detection means, and $L3$ is said length $L1$ multiplied by a preset coefficient α .

19. The imaging apparatus according to claim 18 wherein said image correcting means effects image correction for reducing the width-wise direction of said face area when the face shape of the person as classified by said face classification means is $L2 = L3$.

20. The imaging apparatus according to claim 18 wherein said image correcting means effects image correction for shading the contour portion of the face of said

person in a range of said face area from a preset location between the eyes and the mouth up to the jaw of said person when the face shape of the person as classified by said face classification means is $L2 = L3$.

21. The imaging apparatus according to claim 18 wherein said image correcting means effects image correction for reducing the width-wise direction of said face area in a range of said face area from a preset location between the eyes and the mouth up to the jaw of said person when the face shape of the person as classified by said face classification means is $L2 < L3$.

22. The imaging apparatus according to claim 18 wherein said image correcting means effects image correction for shading the contour portion of the face of said person in a range of said face area from a preset location between the eyes and the mouth up to the jaw of said person when the face shape of the person as classified by said face classification means is $L2 < L3$.

23. The imaging apparatus according to claim 2 wherein said image correcting means effects image correction for reducing the width-wise direction of said face area and image correction for reducing the width-wise direction of said face area in a range of said face area from a preset location between the eyes and the mouth up to the jaw of said person when the face shape of the person as classified by said face classification means is $L2 > L3$.

24. The imaging apparatus according to claim 18 wherein said image correcting means effects image correction for reducing the width-wise direction of said face

area and image correction for shading the contour portion of the face of said person in a range of said face area from a preset location between the eyes and the mouth up to the jaw of said person when the face shape of the person as classified by said face classification means is $L2 > L3$.

25. The imaging apparatus according to claim 17 further comprising
printing means for printing an image of a person trimmed by said image
correcting means.

26. The imaging apparatus according to claim 17 further comprising
illuminating means for illuminating said person.